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THE CONSEQUENCES FOR WOMEN OF THE AVAILABILITY AND  
AFFORDABILITY OF CHILD CARE

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ABSTRACT

This paper was prepared to provide background material for the National Research Council's Committee on Child Care. It focuses on the effects for women of the availability and affordability of child care, concentrating especially on effects on women's employment and earnings. The paper discusses the implications of raising the wages of child care workers, of the reduced availability of free care by family members, and of the wages of women workers. It considers the role of employers as providers of child care subsidies, perhaps as an employee benefit, and the subsidization of child care costs, especially through the federal tax code. ( )

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## INTRODUCTION

We have witnessed a revolutionary increase in labor force participation by women with young children. Several factors underlie this increase in mothers' work effort: declining standards of living of one-income families, women's need to develop market skills as insurance against the increasing frequency of divorce, and the support of the women's movement. These powerful forces are unlikely to reverse. Therefore, society must face the issue of child care.

This paper was prepared to provide background material for the National Research Council's Committee on Child Care. It focuses on the effects for women of the availability and affordability of child care, concentrating especially on effects on women's employment and earnings. It ignores consequences for children, spouses, other family members and society at large, except as these operate through women's employment. It addresses issues of availability and affordability because these are central in the policy debate surrounding child care legislation currently being considered. This debate focuses on the role of the government in insuring the availability of adequate quality care at a reasonable price to families who need care for children while parents work.

Defining "availability" and "affordability" of child care is challenging. In fact, child care is universally available, in that each child has some type of care, almost always from an adult. Very few children care for themselves (U.S. Bureau of the Census, 1987), and latch key children are mostly a phenomenon of the middle class living in suburbs (Cain and Hofferth, 1987). Many children receive care primarily from a relative, either their mother (especially if she does not work outside the home), father, grandmother, or other relative. A sizeable number are cared for in family day care homes or formal centers.

However, some mothers who work exclusively in the home would prefer to be employed but find child care too expensive or unavailable. These women cannot find adequate quality care at a price that makes working "pay." And some employed women would work more hours if they could find additional child care. As we argue later, the amount of child care that is available to women depends on the amount that they are willing and able to pay. And the amount of child care that women want depends on its cost. In this sense, availability and affordability of child care are interrelated. If mothers cannot afford to pay for the child care that is offered on the market, then this child care is not "available" to them. If families could (or were willing to) pay more for child care, additional care would become available.

The plan of this paper is as follows. First, we discuss consequences of child care for women's net wages and labor supply. In this paper these are viewed as primary consequences of child care constraints. Then we discuss secondary consequences, including those for women's childbearing choices and their mental health, and the consequences for others of women's employment. Finally, we discuss child care subsidies and some proposals for making child care more affordable and consequently, available.

## CONSEQUENCES OF CHILD CARE

The ease with which women can arrange for care for their children, their satisfaction with the care they can arrange, the amount they must pay for it, and their wages all affect the woman's gains from employment. Child care also influences women's decisions to bear more children, and affects their mental health.

### Labor Supply

If a mother cannot arrange for care she finds adequate--or if she believes she cannot afford such care--she will not take a job that requires her to be away from her children. Of course, definitions of adequate child care are flexible, and women who must work *must* find child care that they find minimally acceptable even if they are unsatisfied with it. But women who have some discretion about when or how much they work may remain out of the labor force or restrict their employment to times when their children are in school or can be cared for by a family member if they view the available child care as not of adequate quality or as not affordable. And, as we discuss below, the earning power of some women is low enough that they gain very little from working once they pay for child care and the other costs of working.[1]

One important consideration in women's calculus about the costs and benefits of employment is almost always ignored. Women who stay at home to take care of children do a tremendous amount of work, including the

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[1]In the past, child development experts (Spock, 1946; White, 1975) and parents often viewed mother care as the only "adequate" type of care for young children, making child care of an acceptable quality unavailable by definition for most women. These attitudes have changed considerably, driven perhaps by increased job opportunities for women and the women's movement.

production of goods and services for the entire family. Mothers who work in the home provide child care--including transportation for children--manage family consumption, cook, clean, shop, do laundry, and run the household. Economists call these activities "home production." Employed mothers have much less time for home production, by definition, and have competing claims on their attention, time, and energy. So families in which the mother works must somehow find ways to obtain the goods and services that the woman would produce if she stayed home full time, or they must do without.

Families of employed mothers lose much of her time in the home, and thus must use some of her earnings to replace her home production. In addition, the expenses directly related to employment must be paid by families in which the woman holds a paid job, but not by families in which she works in the home. In addition to child care, these include the costs of transportation to work, clothes or uniforms needed for the job, meals at work, equipment, dues or fees. Because of the lost home production and the expenses directly related to employment, Lazear and Michael (1980) estimate that families with an employed mother require 25 to 30 percent more income to maintain the same standard of living as a comparable family in which the mother works only at home. Of course, for families with young children, child care constitutes the most important and most expensive of the services of the mother that must be replaced. As children get older, they require less parental time and more parental money (Oppenheimer, 1974), shifting the balance between the costs and benefits of the mother's employment.

This line of reasoning has clear implications for women's labor supply. Married mothers with young children need to earn at least 30 percent of their husband's income to make employment a net gain. This reasoning explains why wives' labor force participation declines so significantly with increasing husband's income. Most women work in a few occupations classed as traditionally female, and make relatively low wages (Reskin and Hartmann, 1986). These jobs do not "pay" for women whose other family income is high.

The importance of child care costs in determining women's gains from employment means that some women who would prefer to work *if they could find child care at an acceptable price* instead choose to stay home. Several studies (e.g., Presser and Baldwin, 1980) have attempted to measure the size of this group of women, using questions such as that asked in the June 1977 Current Population Survey: "If satisfactory child care were available at a reasonable cost, would you look for work at this time?" This question and others like it are necessarily vague, since they define neither "satisfactory child care" nor "reasonable price." As we said earlier, both of these are judgment calls; some women would judge no care besides their own as "satisfactory" or no price "reasonable." But these questions do tell us something about women's preferences for work in the home versus work in the market. Presumably, those women who say they would look for work or work more if only they could solve the child care problem have a different set of preferences and perceive a different set of constraints than do women who say that availability and affordability of child care are not affecting their work choices.

These questions suggest that a substantial minority of mothers feel constrained in their employment by lack of child care. In the 1977 survey mentioned above, one-fifth of mothers of preschool children not in the labor force reported that they would be looking for work now if they could find child care. Sixteen percent of employed mothers reported that they were constrained in their work hours by child care. Those most likely to be constrained were those most in need of the money from working: unmarried mothers, black mothers, high school dropouts, young mothers, and those with very low family incomes (Presser and Baldwin, 1980; Presser, 1982).

More recently, the National Longitudinal Survey of Youth (NLS-Y) asked a national sample of young women about child care constraints. This sample overrepresents black, Hispanic, and disadvantaged women and



so can not be directly compared to the figures cited above. But in 1986, 20 percent of the employed mothers said they would work more hours if they could find child care. Almost 40 percent of those looking for work said they would be looking for more hours of work if child care were available. And a third of those out of the labor force said they would be looking for work if they had child care. Given that some of these young mothers have no preschool children (although the oldest children are ten), the high levels of reported constraints of lack of child care on the mother's labor supply are striking.

Confirmatory evidence comes from our own research, which shows that some women with low earnings find employment profitable only because they have access to free or very low cost care from relatives (Leibowitz, Waite, and Witsberger, 1988); comparable women without such care face a potential child care constraint on their labor supply.

A contemporaneous survey of mothers of preschool-aged children in the Detroit metropolitan area inquired about the constraint of child care on employment and hours (Mason, 1987). Twenty-five percent of these mothers reported a constraint on employment or hours from child care quality or costs. This study finds, like Presser (1982) that those women with most need for the money--poor women and those heading families alone--report most constraints on employment.

Finally, lack of child care clearly keeps some women from working at all, some from working as many hours as they would prefer, and some from pursuing education or job training. These constraints have long-run as well as short-run impacts. Women who remain out of the labor force fail to develop job skills through work experience and on-the-job training. They forego the growth of earnings that accompanies experience. In addition, their existing training and job skills depreciate from lack of use, meaning that they may lose earning power in addition to failing to gain (Mincer and Ofek, 1982).

The affordability of child care comes down to a comparison of child care costs and the earnings of women in the labor market. For unmarried mothers, it is clear that the cost of child care comes out of their own earnings. But, empirical studies support the idea that for married women, too, child care is the mother's responsibility to pay for out of her earnings (Leibowitz, Waite, and Witsberger, 1988; Lehrer, 1988). The nonmonetary costs of arranging for care also seem to be the mother's responsibility, since Floge (1986) shows that women make most of the child care arrangements.

#### **Child Care Costs and Women's Wages**

For children aged five and under who are in child care, the weekly cost of care is low, partly due to the large share of children for whom care is provided free. However, even among those who pay for care, the weekly cost averaged \$22.63 in 1986 (calculated from the NLS-Y).

Because women seem to be primarily responsible for providing child care at home or paying for child care out of their own earnings, it is useful to consider women's net wages, after deducting the costs of child care. The hourly wage of women who paid for child care was \$5.43 in 1986. After deducting their child care costs, their net wage was \$4.46. Thus child care reduced hourly earnings by nearly a dollar an hour. Women who did not pay for child care earned \$4.83 an hour--less than the gross wage of women who paid for care. However, after considering child care costs, women with free care had higher take-home pay per hour (\$4.83) than women who paid for care (\$4.46).

Poor families spend a larger percentage of their income (21-25 percent) on child care than do nonpoor families (8 percent), even though poor families pay less in absolute terms than do their less poor counterparts (U.S. Department of Labor, 1988). Single parents have lower average child care costs than married parents, but these costs account for nearly twice as great a share of family income in one-parent

households (17 percent) as in two-parent households (9 percent) (U.S. Department of Labor, 1988).

A full consideration of the net wages of working women should include, in addition to child care costs, taxes paid (at the marginal rates because women are considered the secondary earners) and the real costs of replacing home production. It has been estimated that a family with a working mother requires 30 percent more income just to achieve the standard of living of a family with a mother who is not in the labor force (Lazear and Michael, 1980). Unfortunately, the federal tax system no longer takes account of the fact that providing a given standard of living is more costly to the employed mother than to the mother working in the home.

## SECONDARY EFFECTS OF CHILD CARE CONSTRAINTS

### Fertility

Women who find it difficult or costly to combine employment and motherhood may have to choose between them, at least to some extent. In the past, most women chose motherhood and stayed out of the labor force when they had young children, or even after they married. More recently, women tend to remain employed after marriage, and more than half of the mothers with children under one year old hold jobs (U.S. Department of Labor, 1987). So, more often now than in the past, child care may constitute a constraint on the timing and/or number of children that a woman has.

Employed women have historically had smaller families than women who work only in the home. Scholars have debated whether low fertility permits employment or whether employment leads to low fertility. Research suggests that in the long run women tailor their childbearing to their work and career goals, but that in the short run, the demands of a new baby reduce labor supply (Cramer, 1980; Waite and Stolzenberg, 1976; Hout, 1978).

Presser and Baldwin (1980) find, in their sample of mothers with children under five, that women who are not in the labor force have the most children ever born and expect the largest completed families. Both fertility and expected family size fall with commitment to the labor force. They also report that when one looks separately at women by employment status and current family size, those who say they are constrained in work by child care are generally more likely to expect no more children than those of comparable employment status who report no child care constraints. This finding suggests that some women who feel constrained in their employment choices by lack of child care resolve this dilemma by having fewer children.

Other research supports this contention but the effect of child care constraints on women's decisions about whether and when to have more children appear quite modest. Mason (1987) reports that only 10 percent of the mothers of preschool children in her sample indicated that they would have had more children or would have had them sooner if better or less costly child care were available. Blau and Robins (1986) find small, inconsistent effects of child care costs on the chances that employed women have a birth. To the extent that child care cost and availability affect the timing of childbearing and/or women's completed family size, these constraints could affect later economic well-being. Hofferth (1984) finds that women who waited until at least age 30 to begin having children and those with smaller families were better off at retirement age than those who had a first birth earlier and those with relatively large families. Of course, these latter results apply to an earlier and much different time period and must be considered accordingly.

#### **Mental Health**

Women who have young children and hold a job must integrate two potentially demanding and time-consuming roles. The conflicting demands of the two roles may lead to strain, with women feeling that they are failing to meet the demands of either role.

A recent study (Ross and Mirowsky, 1988) finds that the effect of a wife's employment status on her psychological well-being depends on whether she has children, the type of child care used, the difficulty of arranging for child care, and the husband's participation in child care. The mental health of employed wives appears not to depend on presence of children but on the perceived difficulty of arranging for care and whether the husband shares in child care. Employed mothers who have no trouble finding care and whose husbands share the burden have very low depression levels, comparable to the depression level of employed wives

without children and to that of husbands. For married women who do not work outside the home, the presence of children increases levels of depression. Those wives who work outside the home, have trouble finding child care, and whose husbands take no responsibility for child care have very high depression levels. Neither the presence of a child nor the constraints of child care affect the psychological well-being of husbands.

This study points to the central role played by child care constraints in the family lives of women. Ross and Mirowsky argue convincingly that child care constraints cause strain and thus decrease psychological well-being. This research suggests that reducing child care constraints would substantially improve the mental health of women with children. This improvement would certainly contribute to better family functioning generally.

#### **Improvements in Family Income**

Families in which the mother works outside the home benefit directly from her earnings. The importance of the mother's earnings is obvious in single-parent families, but working wives also contribute substantially to family income in two-parent families. Husband-wife families with both spouses in the labor force have median incomes nearly 50 percent greater than that of married couple families without a wife in the labor force (U.S. Bureau of the Census, 1987).

As we noted above, mothers of young children bring home sizeable earnings, even after paying for child care out of their wages. This money provides directly for the support of the woman and her family, with the contributions especially important for women maintaining families by themselves. Thus, children of working mothers may have less access to her time than children of mothers who remain at home, but they have more resources to buy food, clothing, and housing. In addition, the mother's earning can be used for purchases for the children, including improved educational opportunities through nursery school

enrollment (O'Connor, 1988), lessons, special classes, summer school, or tutoring.

The employment of the mother also improves the family's access to health care, if the woman receives health insurance as one of the benefits of her job. Improved access to health care would benefit children directly, with some potential long-run impact for children from poor families (Valdez, 1986).

Finally, women gain in long-run earning power from continuous employment while children are young. Work experience is an important determinant of current earnings, together with job tenure (U.S. Bureau of the Census, 1987). So women who work when they have young children gain financially both in the short run, as we discussed above, and in the long run, as their current earnings increase with work experience and tenure on the job. Women who remain in the labor force when their children are young will find it advantageous to acquire advanced and job-specific training that will increase their later earnings. In addition, full-time work in the past increases current earnings (U.S. Bureau of the Census, 1987), so that women who worked fewer hours than they wanted due to child care constraints pay a long-run price in decreased earnings.

## UNDERSTANDING CHILD CARE SUBSIDIES

### The Demand for Child Care With and Without Subsidies

The classic economic model of the demand for commodities applies to the child care market and provides many insights into the issues of affordability and availability. We take as a starting point the usual supply and demand model, as illustrated in Fig. 1. In the figure, the amount of child care (for example, hours of child care) is represented on the horizontal axis and the price at which child care is demanded or supplied is represented on the vertical axis.

The market demand for child care, (curve DD' in Fig. 1), represents the maximum number of hours of child care demanded at a particular price. Curve DD' is drawn as downward sloping because at higher hourly prices of care, some mothers will find that their net take home pay is so low that they choose not to work, but rather to take care of their children at home. At lower market prices of child care, more women will find working worthwhile, and will use paid child care arrangements to care for their children.

The market supply of child care, (curve SS'), shows the minimum price at which a given number of hours of child care will be provided. Generally, the higher the price, the more care will be supplied. If higher child care prices prevailed, new child care centers might become profitable and more people would find it worthwhile to take care of children in their homes. These providers would include both people who were already working, who would switch occupations to become child care providers, and those who were not previously working, who would find providing child care complemented their other home activities. Both kinds of movements add child care places and mitigate the "child care shortage." In fact, the work of Liliane Floge shows that women move in and out of child care occupations, partly in response to their own needs



and partly in response to the earnings in child care relative to their other opportunities.

The price for child care services (of a specified quality) in a market without subsidies is determined by the supply of child care and the demand for child care. This is represented by the intersection of the supply and demand curves in Fig. 1. At price P, the amount that purchasers want to buy equals the amount that providers want to sell. If the price that mothers were willing to pay for a given number of hours of care increased (due, perhaps, to more favorable tax treatment of child care costs), this would be represented by a shift upward in the demand curve, resulting in a higher equilibrium price. This higher price, in turn, elicits a greater supply of child care hours from providers.

When the price for child care is set above the market clearing price, there is ample supply, but little effective demand by mothers willing to pay that price. This we call the affordability problem. When the price is set below the market clearing price, the demand for places exceed the supply at that price. This we call the availability

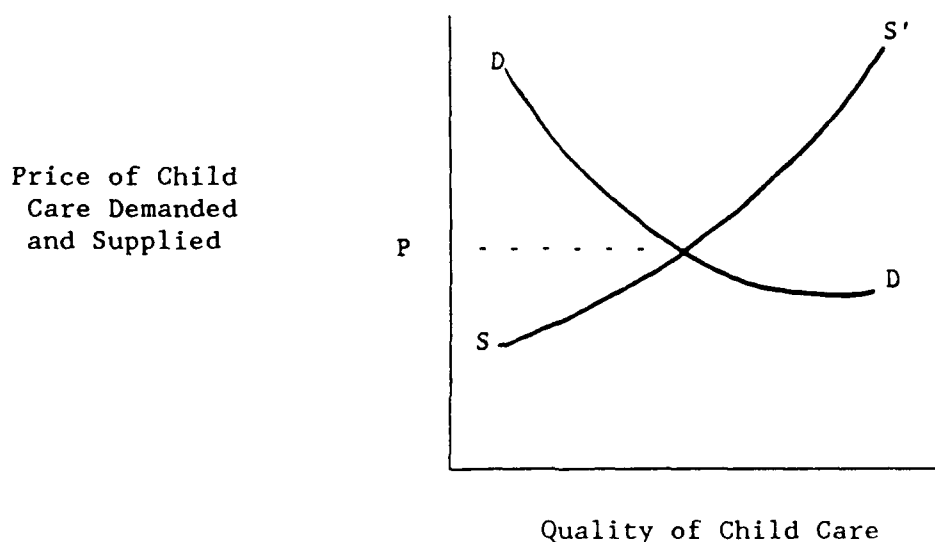


Fig. 1 -- The Supply and Demand for Child Care

problem. The next section discusses the situation that occurs when a subsidy causes the price to fall below the equilibrium price.

### Subsidized Child Care

Another means of increasing the supply of child care places is to subsidize the providers of care. We can represent a fixed subsidy for each hour of child care as a downward shift in the supply curve in Fig. 1. At any quantity of child care, providers would require a lower price from the users of child care, because the difference would be made up by the subsidy. In this case, the quantity of child care used increases, but the price paid by demanders falls.

Child care subsidies are often provided by governments or charitable organizations who charge a price that is less than their cost to make day care more "affordable." This subsidy may take the form of the government paying for child care costs out of general revenues rather than exclusively from the fees paid by day care users, or of churches allowing nursery schools to use their facilities rent-free.

The subsidized centers will naturally be quite attractive to those in the market for child care because everyone would like to pay less for an equivalent product. Because not all child care will be subsidized, those providers who charge less than the market clearing price will find that the demand for their service exceeds their capability to supply it. This excess demand must be rationed. The long waiting lists for particular types of subsidized child care do not, however, indicate that an overall shortage of child care exists. It merely indicates that the demand for the subsidized places exceeds the supply at the subsidized price.

It is a mistake to assume that children on these waiting lists are without child care. Even people who are paying the market price elsewhere will sign up for a chance at care at a subsidized price. The length of the queue is also not a reliable indicator of the amount of

excess demand because many children are signed up at more than one center. It is also true, however, that some people may not be in the queue for child care at all because they believe that no places exist.

In addition to the child care subsidies given by governments and charitable organizations, government has a powerful impact on child care through a multitude of programs. These programs include direct subsidies such as social services block grants and Head Start Programs and indirect subsidies through the AFDC work expense disregard and WIN programs. However, in terms of costs, the largest child care program is the Child Care Tax Credit, which allows child care costs to be partially offset against federal income tax liability (Robins, 1988, U.S. Department of Labor, 1988).

Family members who provide child care free or at below-market prices are, in effect, also subsidizing child care. About 30 percent of the children whose mothers work receive unpaid child care by someone other than a parent (Leibowitz, Waite, and Witsberger, 1988). Four-fifths of that care is provided by relatives, principally grandparents. Among those who pay for care, the weekly cost is 25 percent lower among families that rely on relatives than those that rely on nonrelatives for child care (unpublished calculations from the National Longitudinal Survey of Youth).

In addition, child care workers subsidize child care by accepting low wages and poor benefits. Census data indicate that in 1987 the median weekly earnings of women employed full time as child care workers outside of personal households was \$184, in contrast to the median earnings of \$303 for all women, and median earnings of \$207 for women in personal service occupations (U.S. Department of Labor, 1987).

## HOW CAN CHILD CARE BECOME MORE AFFORDABLE/AVAILABLE?

Either raising the wages of working women or subsidizing the cost will make child care more affordable. Despite some progress (Smith and Ward, 1984), working women's wages are still only 64 percent of those of working men. Since child care costs primarily are paid for out of women's wages, raising these wages should go a long way toward making child care affordable.

Raising women's wages will have a secondary effect of increasing wages of child care workers. Although this would tend to make child care less "affordable," we believe this is equitable. Child care workers should not continue to be a principal source of the child care subsidy.

If child care providers were paid more it is likely that the quality of child care would improve because providers could then afford to care for fewer children at a time and to provide more equipment for each. In addition, the higher wage would attract more qualified child care workers.

Free care by family members is also a major source of "subsidy." However, as more women enter the paid workforce on a regular basis, this source of child care will become less and less available.

Increasing numbers of places in subsidized centers are an option for making child care more available. As we discussed above, however, whenever the price of publically available child care is set below the market clearing price, there will be more families wanting to take advantage of the service than can be supplied. Thus, subsidized child care, by definition, can never fill the demand, unless all places are subsidized. Further, our review of the child care literature suggests that center care, the most likely form to be subsidized, is not the ideal care for young children because group sizes are too large (Ruopp,

et al., 1979) and because young children are more susceptible to contracting illness in child care centers than in family day care homes (Johansen, Leibowitz, and Waite, 1988).

Employers may serve as a growing source of subsidies as they become more aware of the value of child care benefits to younger workers. This subsidy need not take the form of on-site child care centers. Indeed, the discussion above indicates that such centers may not provide the best form of care for small children. However, a child care benefit, similar to the health insurance benefit, may serve as an excellent vehicle to attract both male and female employees. Over three-quarters of the working population receive health insurance through their employment (AHA, 1988). Older workers benefit more from these arrangements than younger workers because the health insurance premium does not vary with age of employee, but the expected health costs rise with age. Employer contributions to pensions also benefit older workers more than younger workers. Thus, in most firms, younger employees subsidize the pensions and the health care of their older co-workers. In return, it seems reasonable that older workers should subsidize the child care costs of younger workers. The tax code already provides a tax exclusion for employer-provided child care (Kahn and Kamerman, 1987).

The tax code, which is currently the largest source of child care subsidy, should continue to underwrite child care costs, in recognition that families with a working mother require 30 percent more income to attain the same standard of living as the family with a full-time homemaker. The home production of the full-time homemaker remains untaxed. The costs of providing child care while mothers work outside the home should have the same status.

## CONCLUSIONS

The literature shows consistently that child care is an important determinant of and constraint on women's employment and the gains that they receive from it. Women devote a substantial share of their earnings to paying for child care and to purchasing market goods that replace their own home production.

Some lower wage women without access to free or reasonably priced child care are kept out of the labor force or work shorter hours than they would prefer because their net gains from employment are too small at prevailing child care costs. For some of the women who do not find work financially worthwhile in the short run, labor force participation would provide long-run benefits both to their own families and to the society at large. Working women not only gain the immediate increase in income and work-related benefits, but they also build market skills that promote earnings growth in the future.

The lowest wage women are most likely to report that child care is a constraint on their labor force participation. They, however, are the women most in need of the wage increases to be earned through experience. Further, for many of the children the environment provided at the day care center may be more enriched than the home environment.

In spite of the fact that the lowest wage women stand to benefit most from child care that promotes their ability to work, income tax provisions direct the majority of the child care subsidy to higher wage women. Direct subsidies of some sort may be necessary to allow the lowest wage women to join the majority of women with children in the labor force. We can no longer continue to rely on free care by relatives and the low wages of child care workers to make child care affordable for these women.

## REFERENCES

- American Hospital Association, "Promoting Health Insurance in the Workplace: State and Local Initiatives to Increase Private Coverage," AHA, Chicago, 1988.
- Blau, David M., and Philip K. Robins, "Fertility, Employment and Child Care Costs: A Dynamic Analysis," paper presented at the meetings of the Population Association of America, San Francisco, 1986.
- Cain, Virginia, and Sandra L. Hofferth, "Parental Choice of Self-Care for School-Age Children," paper presented at the meetings of the Population Association of American, Chicago, April 1987.
- Cramer, James C., "Fertility and Female Employment: Problems of Causal Direction," *American Sociological Review*, Vol. 45, 1980, pp. 167-190.
- Floge, Liliane, "The Search for Day Care in Dual Earner Families," paper presented at the meetings of the Society for the Study of Social Problems, New York, August, 1986.
- Hofferth, Sandra L., "Long-Term Economic Consequences for Women of Delayed Childbearing and Reduced Family Size," *Demography*, Vol. 21, No. 2, May 1984, pp. 141-155.
- Hout, Michael, "The Determinants of Marital Fertility in the U.S., 1968-1970: Inferences from a Dynamic Model," *Demography*, Vol. 15, 1978, pp. 139-160.
- Johansen, Anne, Arleen Leibowitz, and Linda Waite, "Child Care and Children's Illness," *American Journal of Public Health*, forthcoming, August 1988.
- Kahn, Alfred J. and Sheila B. Kamerman, *Child Care: Facing the Hard Choices*, Dover, Massachusetts, Auburn House, 1987.
- Lazear, Edward P. and Robert T. Michael, "Real Income Equivalents Among One-Earner and Two-Earner Families," *American Economic Review*, Vol. 70, No. 2, May 1980, pp. 203-208.
- Lehrer, Evelyn, "Determinants of Child Care Arrangements for Preschoolers," paper presented at the meetings of the Population Association of America, New Orleans, April, 1988.

- Leibowitz, Arleen, Linda Waite, and Christina Witsberger, "Child Care for Preschoolers: Differences by Child's Age," *Demography*, Vol. 25, No. 2, May 1988, pp. 205-220.
- Mason, Karen Oppenheim, "The Perceived Impact of Child Care Costs on Women's Labor Supply and Fertility," Research Report No. 87-110, Population Studies Center, University of Michigan, June 1987.
- Mincer, Jacob, and Haim Ofek, "Interrupted Work Careers," *Journal of Human Resources*, Vol. 17, 1982, pp. 3-24.
- O'Connor, Sorca M., "Women's Labor Force Participation and Pre-School Enrollment: A Cross National Perspective, 1965-1980," *Sociology of Education*, Vol. 61, No. 1, January 1988, pp. 15-28.
- Oppenheimer, Valerie, "The Life-Cycle Squeeze: The Interaction of Men's Occupational and Family Life Cycles," *Demography*, Vol. 11, 1974, pp. 227-246.
- Presser, Harriet B., and Wendy Baldwin, "Child Care as a Constraint on Employment: Prevalence, Correlates, and Bearing on the Work and Fertility Nexus," *American Journal of Sociology*, Vol. 85, No. 5, 1980, pp. 1202-1213.
- Presser, Harriet B., "Child Care Use and Constraints in the United States," pp. 295-304 in Anne Hoiberg (ed.), *Women and the World of Work*, New York, Plenum, 1982.
- Presser, Harriet B., "Child Care Use and Constraints in the United States," pp. 295-304 in Anne Hoiberg (ed.), *Women and the World of Work*, New York, Plenum, 1982.
- Presser, Harriet B., and Wendy Baldwin, "Child Care as a Constraint on Employment: Prevalence, Correlates, and Bearing on the Work and Fertility Nexus," *American Journal of Sociology*, Vol. 85, No. 5, 1980, pp. 1202-1213.
- Reskin, Barbara F., and Heidi I. Hartmann, *Women's Work, Men's Work: Sex Segregation on the Job*, Washington, D.C., National Academy Press, 1986.
- Robins, Philip, presentation to the National Academy of Science panel on child care, February, 1988.
- Ross, Catherine E., and John Mirowsky, "Child Care and Emotional Adjustment to Wives' Employment," *Journal of Health and Social Behavior*, Vol. 29, 1988, pp. 127-138.



Ruopp, R., J. Travers, F. Glantz, and C. Coelen, *Children at the Center: Final Report of the National Day Care Study*, Abt Associates, Cambridge, MA, 1979.

Smith, James P., and Michael P. Ward, *Women's Wages and Work in the Twentieth Century*, RAND Report R-3119-NICHD, October 1984.

Spock, Benjamin, *The Pocket Book of Baby and Child Care*, New York, Pocket Books, 1946.

U.S. Bureau of the Census, "Who's Minding the Kids? Child Care Arrangements: Winter 1984-85," *Current Population Reports*, Series P-70, No. 9, Washington, D.C., U.S. Government Printing Office, 1987.

U.S. Bureau of the Census, "Male-Female Differences in Work Experience, Occupation, and Earnings: 1984," *Current Population Reports*, Series P-70, No. 10, Washington, D.C., U.S. Government Printing Office, 1987.

U.S. Bureau of the Census, *Statistical Abstract of the United States: 1988*, (108th edition), Washington, D.C., 1987.

U.S. Department of Labor, *Child Care: A Workforce Issue*, Report of the Secretary's Task Force, U.S. Government Printing Office, April 1988, pp. 212-248.

U.S. Department of Labor, Bureau of Labor Statistics. Unpublished tabulations from the 1987 Current Population Survey.

Valdez, Robert, "The Effects of Cost Sharing on the Health of Children," The RAND Corporation, R-3270-HHS, March 1986.

Waite, Linda J., and Ross M. Stolzenberg, "Intended Childbearing and Labor Force Participation Among Young Women: Insights from Nonrecursive Models," *American Sociological Review*, Vol. 41, April 1976, pp. 235-252.

White, Burton L., *The First Three Years of Life*, Englewood Cliffs, New Jersey, Prentice-Hall, 1975.